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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

VERBATIM RECORD OF THE 381st MEETING

Held at Headquarters, New York,
on Tuesday, 8 June 1993, at 3 p.m.

Chairman: Mr. HOHENFELLNER (Austria)

- General exchange of views (continued)

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93-85975 4355V (E)

The meeting was called to order at 3.25 p.m.

GENERAL EXCHANGE OF VIEWS (continued)

Mr. ORDZHONIKIDZE (Russian Federation) (interpretation from Russian): On behalf of the Russian delegation, I should like to express deep satisfaction, Mr. Chairman, with your statement about the work of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) over the past year, which marked the beginning of our work this session. The wealth of factual material introduced in your statement, was coupled with interesting observations regarding problems and trends in the development of international cooperation in outer space and the role of the United Nations and, thus, our Committee in that process.

The historic changes that have taken place throughout the world in recent years have led to outer space no longer being seen as a launching-pad for building up military might or a means of strengthening political prestige. In present-day circumstances, States tend more to see activities in outer space through the prism of what can be called their own "earth-bound" interests: using the achievements of space science and technology for the goals of economic development and social progress.

In these circumstances, a more important role must be played by the United Nations, which is called upon to serve as a centre for agreeing on efforts to be made by the world community in the peaceful conquest of space in the interests and for the benefit of mankind as a whole. Naturally, the key role in such efforts lies with COPUOS, which, during its more-than-thirty-year history, has proved itself to be an authoritative forum capable of coming to generally acceptable decisions on the broad range of associated political, legal, scientific and technological problems.

(Mr. Ordzhonikidze, Russian Federation)

In today's political conditions, it is quite natural that, as a priority issue on its agenda for the current session, the Committee is examining the problem of seeking ways and means to keep outer space peaceful and to use it for peaceful purposes. Of course, the strengthening of peace and security and the establishment of an atmosphere of stability and trust in international relations, as is now recognized by almost everyone, depends not least on keeping outer space peaceful and free from the arms race. We, for our part, have constantly advocated and continue to advocate, transparency and predictability in the activities of States in outer space, as we have frequently emphasized in our negotiations on nuclear and outer-space weapons in the Conference on Disarmament.

Now, in the absence of confrontation between super-Powers and with a political climate throughout the world that has changed for the better, both sides have the possibility of rejecting their "star wars" plans. The Russian delegation would like to inform the Committee that, through a decree issued this May by the President of the Russian Federation, we have taken out of service the whole set of space defense weapons we have in our country. In approaching the problem of keeping outer space peaceful, it should be borne in mind that the purely disarmament aspects are far from being exhausted.

In States' outer space activities today, the philosophy of cooperation, must be reaffirmed, and it is incumbent on the Committee to be an active guide for this process. The scope for cooperation is tremendously broad; space technology can be used for studying the natural resources of the Earth and the oceans, changes in climate and the atmosphere, development of technologies for producing new materials, medicines and biological compounds, space-based telecommunications, shipping services and so on.

(Mr. Ordzhonikidze,
Russian Federation)

I should like to emphasize that Russia is open for world-wide cooperation in outer space. Today we are primarily concerned with economically cost-effective and commercially justifiable projects. In order to implement these, we are prepared to make the necessary commitments. In so doing, we are of course counting on conditions for equitable partnership being respected that rule out any unjustified restrictions on participation by Russian industry in carrying out international projects in outer space.

(Mr. Ordzhonikidze, Russian Federation)

It is from this point of view that we advocated, in our negotiations with our partners, fair participation for our country in the international market for space services. In this connection, the Russian delegation welcomes the statement yesterday by the Deputy President of the Commission of the European Communities that the agreement on the use of Russian rockets for launching European satellites have finally been agreed.

The Russian Federation is in favour of wide-ranging development of joint action with the United Nations along the lines of the international programmes being implemented under United Nations auspices to cooperate in outer space. In this context, bearing in mind the scale of the problems, we feel that it would be advisable to prioritize the Committee's consideration of the issues involved in the use of space technology for environmental purposes. In particular, it is the view of our delegation that the Scientific and Technical Subcommittee could play a more active role in implementing the recommendations of the United Nations Conference on Environment and Development, including setting up global monitoring of the environment using space-based methods.

Another major problem is the progressive pollution of near-Earth space by artificial objects, the problem of space debris. A study of some of the aspects of the problem is being undertaken in our country in such fundamental areas as research into the sources and processes of space debris, and measures to reduce it, and research into the physical and chemical interreactions between space debris and space vehicles.

At present, a whole range of research is under way on these problems. It is being undertaken by our largest institutes involved in creating rocket and space technologies, and the Russian Academy of Sciences is also participating.

(Mr. Ordzhonikidze, Russian Federation)

A major area of scientific research is the acquisition, condensation and analysis of data on space debris levels on the basis of observations of space detritus, and the study of the physical processes by which space debris clumps together and of its nature and motion in order to ensure the safety of space flights. This area is being headed by a special scientific research centre which has recently been set up in Russia, called Cosmos, and is based on data from the regular monitoring of near-Earth space by our space control system.

The condensed results of this research we are carrying out, together with similar work undertaken by research centres in other States, may, in our view, make it possible for the COPUOS to embark on a practical examination of this complex problem from all points of view.

The results of the work of the world community on the use of outer space for peaceful purposes depends primarily upon how successful we are in consolidating international efforts in this area and involving in the work of the Committee the efforts of those States that show interest and that are ready to make their own practical contributions. Therefore, the delegation of the Russian Federation supports the request by the Republic of Kazakhstan to become a member of this Committee, for Kazakhstan was the country where the first artificial satellite was launched and the first cosmonaut in the world was sent into space. We feel that there is every reason why they should join in our work.

Mr. SHMAROV (Ukraine) (interpretation from Russian): Mr. Chairman, first of all, the delegation of Ukraine would like to state that we are pleased to see you as Chairman of the Committee. We feel certain that under

(Mr. Shmarov, Ukraine)

your skilled guidance, the present session of the Committee will cope with the tasks before it. We should like also to congratulate the other members of the Bureau.

The establishment of a Ukrainian State and its becoming part of the world community as a sovereign State, independent and deciding upon its own fate, was a turning-point for my country. In this assembly, I should like once again to reaffirm the belief of the Ukraine in the purposes and principles of the United Nations Charter, the generally recognized norms of international law, and also our unshakeable resolve to build a genuinely democratic society.

Having set out along the path of independent development for our State, we attach great importance to widening our participation in all areas of international cooperation, and it goes without saying that this is just as true for the area of the exploration and use of outer space.

Allow me briefly to inform the Committee about Ukraine's space activities.

The well-known political and economic changes that have taken place in recent years in the countries that have emerged on the territory of the former USSR have also been reflected in the area of outer space and have demanded considerable changes in this sector. Historically speaking, Ukraine played a major role in the Soviet Union's space programme and has considerable capability in outer-space science, technology and industry. The scientific research institutes, design offices and industrial enterprises of the Ukraine were integrated into the powerful space infrastructure of the Soviet Union and worked within it in a context of wide-ranging cooperation. I recall that Ukraine developed and produces the Zenit and Tsiklon rocket launchers; various space vehicles - satellites in the international INTERCOSMOS programme, the Cosmos series, Okean and others - more than 300 vehicles in all; their control

(Mr. Shmarov, Ukraine)

systems; and instruments for basic and applied research. Ukrainian engineers and scientists have significant achievement to their name in the fields of space materials and designs. Ukraine did a tremendous volume of work on the Salyut, Mir, Energia and Buran programmes.

A year ago, the President of Ukraine set up a national space agency designed to guide State space policy. This agency has two major tasks before it: first, to determine Ukraine's capabilities in the space field, i.e., in effect to take a complete inventory of its science, technological and industrial capacity; and secondly, to determine the needs of our economy for "space production", so called.

Carrying out this exercise has laid the groundwork for developing a national space programme for Ukraine.

(Mr. Shmarov, Ukraine)

The programme provides for the development of the space industry in Ukraine up to the year 2000 in three stages. In setting up the programme, we based ourselves on the following principles: first, on continuing and developing cooperation with the countries of the Commonwealth of Independent States, and other States, on a mutually beneficial basis and on supporting existing forms of cooperation in science and industry; second, on establishing our own space technology, the necessary infrastructure for it on the ground, bringing together science and industry in the same place as far as possible and organizing our control over our space activities; third, on directing our space activities along economic lines and achieving tangible results in the shortest possible time; fourth, on ensuring Ukraine's security; fifth, on the dual purpose of space technology, by bearing in mind both our country's economic and its defence interests; sixth, on continuing basic scientific research; seventh, on keeping and developing our scientific, technological and managerial capability, the unique experimental science basis for our technology and our industrial capacity; eighth, on carrying out controlled conversion in science and industry; ninth, on integrating ourselves into the international community as a spacefaring Power and cooperating with world producers and consumers of space technology; and, tenth, on marketing our space activities.

Ukraine's national space programme has been developed from the point of view of meeting the needs of the economy. Specifically, it is serving the following areas: computerization of the economy with telecommunications of all kinds - radio, television and retransmission up- and down-links; rational natural resource usage, environmental monitoring, weather forecasting and advance warning of natural disasters and extreme weather conditions; study of

(Mr. Shmarov, Ukraine)

natural resources on land and in the seas, and planetary climate and atmospheric developments; acquiring new data to enhance our basic understanding of the Earth, the Sun, space and other planets; development of space technologies to develop new materials, medicines and biological compounds; enhancing and supporting our unique experimental base and specialized products; developing space transportation systems; and laying the scientific and technological groundwork for space rocket technology for economic purposes in the longer term.

Our national space programme consists of the following sections, about which I should like to inform you briefly. Fuller details will be made available about our national space programme to all those interested.

Firstly, there are space-based telecommunications and data systems; this section of the programme takes about 20 per cent of the budget. The programme makes provision for three forms of telecommunication: fixed, mobile and radio and television broadcasting. Since at present Ukraine does not have its own space vehicles, in the first stage the problem of increasing telecommunication capacity is being solved by increasing the number of leased channels on Russia's telecommunications satellites Gorizont, Ekran-M and on a number of satellites on which data channels have become free through conversion. We are also increasing the number of services offered by the International Maritime Satellite Organization, International Telecommunications Satellite Organization and European Telecommunication Satellite Organization systems. In the longer term, the development of space-based telecommunications will be based on our participation in the Marathon, Express and Coupon projects, and we are working on the capabilities of the Romantis and Sovcanstar projects.

The programme is financing the development of our national telecommunication satellite "Libid", which is to be launched in 1996. Work is

(Mr. Shmarov, Ukraine)

also under way on the Ariadna project, which is a series of low-orbit satellites to provide global telecommunications that is being financed on a commercial basis, with participation by foreign investors. We feel that we should expand cooperation in carrying out these projects. Ukraine already has cooperation from France, Britain and Italy.

In this same section of the programme, we plan to carry out work on providing services to shipping by providing location and time information and a vessel-in-distress system.

The second and largest area of the space programme is Earth observation from space; this takes about 22 per cent of the budget. At the present time, the needs of more than 20 Ministries and departments in Ukraine for space-based products is being met through receiving data from existing satellites, whether Russian or other. Setting up a Ukrainian State network to acquire, process and interpret space-based information for users does present a number of difficulties. Formerly, the data was handled centrally through the structures of the USSR. Five regional centres - Kiev, Lvov, Kharkov, Dnepropetrovsk and Sebastopol - are being set up, which will be linked into a common data net.

Work is being carried out to establish a Ukrainian all-purpose remote-sensing satellite, the Okean-U, which is to be launched in 1994.

On the basis of our historical specialization in the field, the results of our many years of research, our experience in developing space technology and the fact that we have produced unique methodological developments and technological solutions for Earth remote sensing, Ukraine is one of the leading countries in the field of remote sensing of both land and sea, and has everything it needs to set up its own remote sensing system which could then

(Mr. Shmarov, Ukraine)

be included in an international space programme. We consider cooperation in remote sensing within the framework of international cooperation to show great promise, particularly cooperation with the countries bordering us.

The third section of the programme is space research and monitoring; this takes up about 13 per cent of the programme's budget. Here, Ukraine is participating actively through its financial contributions, its scientific capability and by supplying space technolgy to the following scientific space projects, Mars-94, Auos-SM - Coronas and Photon - Spektr, and others, for basic scientific space research.

An important part of the programme is its fourth part, which has to do with space biology and medicine, and space technology. This takes up 8 per cent of the programme's budget.

(Mr. Shmarov, Ukraine)

A space transport system takes up 13 per cent of the budget. In this area, the programmes provide for the improvement of existing rocket launchers, Tsiklon and Zenit. We are also working on a booster for the Zenit which will make it possible for the rocket to move out into a geostationary orbit and carry a payload of roughly two tonnes.

Work is under way on demilitarizing existing strategic rockets in Ukraine for use as carriers for peaceful purposes. Scientists in Ukraine are also working on the creation of an aviation space system on the basis of a wide-bodied aeroplane called "Maria". We believe that it would be useful to involve the efforts of other countries - for example, Russia, the United States, France, the United Kingdom and Germany - because the cost of the project is very high.

The sixth section of the programme is the experimental bases and infrastructure on the ground. Here I will simply say that we are planning a significant amount of work to support the infrastructure, on the ground and the scientific infrastructure, with a particularly large amount of work to support the Baykonur infrastructure, which is used jointly by Russia, Kazakhstan and Ukraine.

We are also planning to provide funds and create a programme for the development of such areas as staff training and scientific information activities.

Ukraine is also undertaking international space work. Greater detail about the space programme in Ukraine is available here to all those who are interested.

I should like also to support what my Russian colleague said about supporting the appeal to the Committee by our colleagues from Kazakhstan; the

(Mr. Shmarov, Ukraine)

delegation of Kazakhstan is present here, and is headed by Mr. Tokhtar Aubakirov, the well-known pilot and astronaut, who made a statement about the adoption by the Committee of the proposal to include the Republic of Kazakhstan in its membership. I think it was an objective statement, and it was justified, because the Republic of Kazakhstan today has, I think, the most powerful infrastructure in the world for creating and launching space vehicles. Such a country cannot remain outside the world's space community, and its views would without doubt be very important for that community.

In conclusion, I wish once again to express the readiness of Ukraine to cooperate internationally on the peaceful exploration of outer space, the use of space in resolving our problems here on Earth, and actively to participate in the Committee's work. We intend to dwell on these issues in detail when we reach the relevant items on the agenda for this session.

Mr. ZAMAN (Pakistan): The Pakistan delegation has the pleasure of attending the thirty-sixth session of the United Nations Committee on the Peaceful Uses of Outer space with you once again as its Chairman, Sir. We are sure that under your skilful and praiseworthy stewardship our Committee will succeed in satisfactorily completing its various tasks.

The Pakistan delegation would also like to place on record its appreciation of the valuable assistance rendered to the Committee by its two Subcommittees working under the direction of men of eminence: Professor John Carver and Mr. Mikulka, to whom we owe our sincere gratifude.

My delegation would also like to record its appreciation of the preparation of the report (A/AC.105/547) by the Secretariat. We endorse your

(Mr. Zaman, Pakistan)

view, Sir, that the report will serve as a useful basis for future work and action by the Committee.

There is no denying the fact that space technology continues to register progress at a brisk pace and that the applications of space technology have been manifested in several fields to the benefit of all the nations of the world. However, as always, my delegation believes that the scientific and technological programmes of the nations should undoubtedly be peaceful in nature. Some of the peaceful applications are of considerable importance for the developing countries, and much more needs to be done to extend the full benefits of space research to those countries. Taking into account the established applications of space technology, the trend, on the whole, is for commercialization of related services drifting towards monopolization, which should not be allowed to become the primary consideration for promoting space technology applications activities.

Pakistan has always believed that outer space should be used only for peaceful purposes. Accordingly, Pakistan's space programme, as implemented by the national space agency the Pakistan Space and Upper Atmosphere Research Commission (SUPARCO), is directed towards that goal. During 1992 Pakistan's space activities registered progress in several application fields, such as remote sensing data applications for resources and environmental studies; satellite communications research; atmospheric research and environmental pollution studies; and ionospheric research. In July 1992, a five-day short course on satellite-aided search and rescue operations was jointly organised at Lahore, Pakistan, by the Inter-Islamic Network of Space Science and Technology (ISNET) and SUPARCO. It was co-sponsored by the Organization of the Islamic Conference (OIC) Standing Committee for Scientific and

(Mr. Zaman, Pakistan)

Technological Cooperation (COMSTECH) and the COSPAS (Space System for Search for Distressed Vessels)-SARSAT (Search and Rescue Satellite-Aided Tracking) Council. Representatives from national search-and-rescue coordinating agencies attended the course. The course was designed to familiarize managers, search-and-rescue operators and service providers with the COSPAS-SARSAT system's concept, to highlight the global character of this programme, and to provide detailed information on the functioning of various constituent elements of its worldwide network.

As the representative of China has said, in December 1992 the first Asia-Pacific Workshop on Multilateral Cooperation in Space Technology and Apoplications was held in Beijing, China. It was jointly organized by the China International Exchange Centre for Space Science and Technology (CIECS), the China Society for Astronautics (CSA), the Pakistan Space and Upper Atmosphere Research Commission and the Thailand Ministry of Transport and Communications. About 120 top technologists, experts and decision-makers from 17 Asia-Pacific countries, including United Nations experts, participated in the Workshop and made several presentations on scientific, technical and policy issues. The participants adopted several recommendations to enhance multilateral cooperation in space technology and its applications in the Asia-Pacific region. The next conference in this connection is scheduled to be held in Thailand in January 1994 to review and further discuss modes, approaches and projects as well as the relevant issues involved in further promoting multilateral cooperation in space technology and applications between the Asia-Pacific region countries.

(Mr. Zaman, Pakistan)

Pakistan also played host to the annual meeting of the Directors of the national remote sensing centres and programmes in the region of the Economic and Social Commission for Asia and the Pacific (ESCAP), which was held in Islamabad, Pakistan, from 8 to 12 May 1993. The meeting was organized by the ESCAP Regional Remote Sensing Programme in cooperation with the Pakistan national space agency - the Space and Upper Atmosphere Research Commission (SUPARCO) - and was co-sponsored by the Government of France. Forty participants from 23 countries and organizations attended the meeting, including representatives of three United Nations agencies - ESCAP, the United Nations Development Programme (UNDP) and the Food and Agriculture Organization of the United Nations (FAO) - and three international or regional agencies or organizations - the Asian Development Bank, the European Space Agency and the International Institute for Aerospace Survey and Earth Sciences (ITC). During that meeting, the ninth session of the Intergovernmental Consultative Committee (ICC) on the ESCAP/UNDP Regional Remote Sensing Programme was also held, chaired by Pakistan, the current Chairman of ICC. A number of recommendations were adopted at the Directors' meeting; these could have far-reaching effects on the activities of the Regional Remote Sensing Programme.

Work on the development of Pakistan's second experimental satellite, BADR-B, is in progress. BADR-B will a 50-kilogramme-class microsatellite designed to be launched into sun-synchronous orbit towards the end of 1994, with an in-orbit life of about two years. The satellite will carry payloads for a store-and-forward experiment and an Earth-imaging experiment. In

(Mr. Zaman, Pakistan)

addition, the satellite would carry a dosimeter experiment for measuring the ionization radition levels encountered in polar orbits, and an end-of-charge detector experiment for monitoring battery-charge status. These are being incorporated with the active collaboration of the European Space Agency.

The delegation of Pakistan sincerely wishes that at the present session the Committee will make good progress on long-outstanding issues on its agenda. My delegation, as in the past, is committed to making positive contributions and efforts to achieve the long-cherished goal: the promotion of peaceful applications of space science and technology on an international scale. My delegation will be making further contributions on other items of the Committee's agenda as and when they are taken up.

Mr. FULDA (Germany): First of all, I should like to take this opportunity to congratulate the Committee on the Peaceful Uses of Outer Space, under its excellent Chairman, Ambassador Hohenfellner, as well as the Subcommittees and working groups, on their outstanding work. Let me add that we will continue to place the Committee's most delicate problems into your experienced hands, Sir, knowing that there is no better way of achieving consensus in the Committee. The Federal Republic of Germany is prepared to continue to play an active role in the use of space for the benefit of all.

Looking back over developments since our last session, we can happily note that, on 14 December 1992, the General Assembly, at its forty-seventh session, adopted the Set of Principles Relevant to the Use of Nuclear Power Sources in Outer Space. Those Principles were finally formulated after 13 long years of discussion in this Committee and its two Subcommittees. Of course, it must be remembered that the results of such a process can only be

(Mr. Fulda, Germany)

compromise solutions. Yet we are all aware of the fact that we have reached a pragmatic solution which is acceptable to all of us. We have agreed that a review of the Principles should be started immediately. Such a review may be necessary given the fact that science and technology have made substantial progress since work on the catalogue began. All new initiatives will be given careful attention. We think that discussion of the Principles, if any is needed, could begin during next year's session of the Scientific and Technical Subcommittee. It goes without saying that the validity of the Principles will be unaffected until the revision process arrives at a new consensus.

Let me turn to the question of space debris. The urgency of this problem is reflected in the fact that, during the last few years, it has been raised in a steadily growing number of contributions to the discussions in this Committee and its Subcommittees. The German delegation is firmly convinced that the issue of space debris is important enough to be made a separate item on the agenda of the Scientific and Technical Subcommittee. We have to be aware that this problem needs much further investigation.

The first European conference on space debris, which was organized in Darmstadt last April by the European Space Agency (ESA), the German Space Agency (DARA), the British National Space Centre (BNSC) and the Italian Space Agency (ASI), showed once more how much work needs to be done in order to get an overview of the scientific and technological dimensions of the problem.

This Committee should therefore propose to the General Assembly that the Scientific and Technical Subcommittee start a comprehensive discussion of the ever growing problem of space debris. It is in the interest of all

(Mr. Fulda, Germany)

spacefaring nations, those already active as well as those still emerging, to take up this question. In Germany, space debris research is very actively pursued at several research centres and universities. Since scientific progress can be achieved only by making available full information and ensuring optimum transparency of scientific results, we declare ourselves ready to share our findings, as far as possible, with all interested delegations in the Scientific and Technical Subcommittee.

It must be reiterated time and again that the use of space for peaceful purposes is a very important task for mankind as a whole. Here we have a field of cooperation where bridges can be built between all the peoples on Earth, be they rich or poor. Germany is keen that these bridges should be as strong as possible, so we welcome the plans of the Office for Outer Space Affairs to make the use of space applications available to countries undergoing development. We have supported the missions to Africa organized by the Office for Outer Space Affairs to evaluate possible sites for the planned centres for space applications.

Germany is taking part in United Nations training programmes. The next course will be organized by the Potsdam Centre for Geological Research and will be held in Nepal this autumn. We deliberately go out of Germany for this purpose in order better to contribute to public awareness of these high-tech potentials in a specific third-world country.

Germany will always be open to constructive cooperation in space. The only qualification I unfortunately have to make is that imposed by budget constraints, which place a considerable damper on our best political

(Mr. Fulda, Germany)

intentions. Under these circumstances we certainly could and should seek to strengthen international cooperation in order to get the necessary things done in the most efficient way.

At the request of the United Nations Cartographic Department, the German-sponsored D2 mission provided the United Nations with data on Cambodia in order to help the Organization's efforts to bring peace to that troubled country. It may be noted that this was not the first time that Germany had provided such services to the United Nations, as ERS-1 data was provided in 1992. We very much hope that this can contribute at least something to supporting international assistance for Cambodia.

(Mr. Fulda, Germany)

Just a few months ago, the D2 mission was finally launched, with the help of the National Aeronautics and Space Administration of the United States (NASA), for which we are very grateful. The mission proved to be very successful, and my delegation will take the opportunity to report on several of its highlights under later agenda items. The Mission can chalk up successes not only in life science, Earth observation and microgravitation but, in particular, in the first use of the robotic experiments of Rotex, which seem to have provided us with very promising results. We believe that science and technology throughout the world will in due course profit from the outcome of the mission. We hope to be able to report more about this during next year's Scientific and Technical Subcommittee session.

I should like to take this opportunity to thank the Office for Outer Space Affairs and its Chief, Mr Jasentuliyana, for its outstanding work. We hope and are sure that the Office will continue its invaluable activities.

Looking beyond the traditional day-to-day practice, maybe we could discuss bringing some more flexibility into the agendas of the Committee and its Subcommittees. We should have a careful look at them in order to check the relevance of the various items. In this way we can, hopefully, make the work of the Committee and its Subcommittees even more efficient. We should also consider the possibility of shortening sessions, particularly those of the Legal Subcommittee, thus flexibly responding to the workload of each year's agenda.

The German delegation is looking forward to another very interesting session of Committee on the Peaceful Uses of Outer Space. We hope that it will once again bring fruitful results in the interest of all mankind and we wish the Committee every success.

Mr. YAMAMOTO (Japan): Mr. Chairman, I should like first of all to express my pleasure at seeing you in the Chair. I am sure that, with the benefit of your well-known skill and broad experience, the present session of the Committee will be a very successful one. I wish also to extend my best wishes to the other officers of the Committee, to the Chairmen of the two Subcommittees, as well as to the Secretariat staff.

As is clear from the reports now before us, the Subcommittees have done an excellent job this year. This is clearly a reflection of the fact that an increasing number of countries are gaining a better awareness of the shared burdens and responsibilities entailed in space activities. Japan welcomes this atmosphere of cooperation, and sincerely hopes that it will prevail as we pursue our work in the weeks and months ahead.

At this preliminary stage, I just want to outline Japan's basic considerations with regard to a number of issues, although my delegation is certainly interested in hearing the views and comments of other members.

First, my delegation believes we need to set in motion consideration of the question of space debris by establishing the most effective possible procedures. Japan fully shares the concerns of many nations about the possible hazards posed by space debris. While making the maximum effective use of orbits, we must ensure that any potential danger is minimized. This will require an exhaustive, objective scientific analysis of the problems involved. Indeed, an objective scientific analysis is of critical importance and preliminary to any future endeavours. Accordingly, Japan would support the inclusion of this item on the agenda of the Scientific and Technical Subcommittee.

The second issue is that of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 3), although my

(Mr. Yamamoto, Japan)

delegation is not so sure that such a conference is still in fact relevant to our work. Japan is very sympathetic to the possible underlying consideration, namely, the desirability of sharing the benefits derived from space activities among as many nations as possible. Yet, the need, appropriateness or terms of reference of such a major conference are far from obvious. We have to be very careful, therefore, not to attach undue importance to ill-defined projects and to make the most of the opportunity to discuss the matter at the session of COPUOS. A full clarification of the issue involved will be necessary before we are persuaded that such a conference is worth while.

Thirdly, Japan highly appreciates, and is reassured by, the moves towards the rationalization of our work, particularly in connection with the Legal Subcommittee. I am sure that under your guidance, Mr. Chairman, and with the benefit of our accumulated wisdom and experience, the question of venue for the Committee as well as its Subcommittees will be appropriately resolved.

Lastly, the importance of conducting, in a timely manner, a review of the principles governing the use of nuclear power sources cannot be overemphasized. Thus Japan is pleased that ample time is being allocated for this purpose, both in the Scientific and Technical and in the Legal Subcommittees.

I do not think it is necessary to reaffirm the value of this Committee; all members, I am sure, recognize and support the important work it is doing. The responsibility to develop a framework for using outer space for the benefit of all humankind is enormous, but the prospects that we shall be successful are excellent indeed. The Outer Space Treaty provides us with appropriate and reasonable guidance. Hence, and transcending the outdated

(Mr. Yamamoto, Japan)

categorization of countries according to their development status in the context of outer space activities, my delegation is confident that in addressing the complex issue the Committee will be able to strike a proper balance between political and scientific demands.

The meeting rose at 4.20 p.m.

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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

VERBATIM RECORD OF THE 382nd MEETING

Held at Headquarters, New York,
on Wednesday, 9 June 1993, at 10.30 a.m.

Chairman: Mr. HOHENFELLNER (Austria)

- Attendance by non-members of the Committee
- General exchange of views (continued)
- Organization of work

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The meeting was called to order at 10.50 a.m.

ATTENDANCE BY NON-MEMBERS OF THE COMMITTEE

The CHAIRMAN: I should like to inform members that I have received a note verbale from Peru in which it has requested permission to attend the current session of the Committee on the Peaceful Uses of Outer Space as an observer. I should therefore like to suggest that, in conformity with past practice, we invite that delegation to attend the current session and to address the Committee as appropriate.

This is, of course, without prejudice to further requests of this nature, and does not involve any decision by the Committee concerning status. It is a courtesy we customarily extend to delegations.

If there is no objection, we shall proceed accordingly.

It was so decided.

GENERAL EXCHANGE OF VIEWS (continued)

Mr. LOUET (France) (interpretation from French): Speaking for the first time at this session, the French delegation wishes again to express its pleasure that you, Sir, are presiding over our work, and to assure you of our support as you guide our deliberations, which we know you will lead to a successful conclusion.

My delegation also thanks the Secretariat for its work, which has enabled us to receive high-quality documents in good time.

This thirty-sixth session of the Committee begins at a time when earlier meetings have allowed us to make progress in bringing closer together various positions on several points on which earlier discussion proved fruitless. Today we hope that this session of the Committee will allow, on the one hand, the consolidation of what we have achieved and, on the other hand, agreement on questions for which the meetings of the Scientific and Technical

(Mr. Louet, France)

Subcommittee and the Legal Subcommittee have made it possible to bring together different points of view.

With regard to our achievements, I would briefly recall the General Assembly's adoption in resolution 47/68 of 14 December 1992 of a set of principles relevant to the use of nuclear power sources in outer space. That was an important success for our Committee. Now we must implement that set of principles before deciding on the need for possible revision of them. The French delegation had the opportunity at the last session of the Scientific and Technical Subcommittee to describe some possibilities for progress within that set of principles, such as seeking to improve effective methods of implementation - that is, quantifying the probability of risks - and the application of those principles to other celestial bodies.

My delegation feels that it is important, as you emphasized in your opening statement, Mr. Chairman, to wait for the contribution by the Scientific and Technical Subcommittee to the technical understanding of the possible need for revision. Space debris figures among the questions to which the Scientific and Technical Subcommittee asked the Committee to respond. We all know the complexity of that subject, many aspects of which still require in-depth technical studies.

We believe that a proper technical understanding of this still very new subject is a precondition for any consensus in the Committee on this subject. My delegation will agree to recommend to the General Assembly at its next session that it put this item on the agenda for the next meeting of the Scientific and Technical Subcommittee. We must devote the time and effort necessary without prejudging the outcome. My delegation will have the opportunity to return to this point when appropriate and to make its technical

(Mr. Louet, France)

contribution to the discussion that we hope will take place at the next session of the Subcommittee.

Now I wish to recall briefly the activities of the French space agency, CNES, in which cooperation has an important place. The missions of CNES may be defined as follows: developing scientific and application activities within the national framework or through international cooperation; conceiving, managing and implementing major projects within an industrial framework; providing operational assistance to Ariane launchings and putting satellites in orbit and keeping them there, through the space centre in Kourou, French Guiana, and through the CNES network of stations; preparing future space programmes; and, finally, consolidating and developing the know-how and competitivity of the French industry.

With regard to launchers, the European Space Agency delegated to CNES the development of the Ariane programme, and since 15 June 1988, the date of the first launch of an Ariane 4, there have been six versions of this launcher, which can carry from 2,000 kg to 4,450 kg into geostationary transfer orbit, according to the needs of the users. These missions are carried out with a view to maximum reliability and economic competitivity.

With recent successful engine tests, this effort has reached a new stage in the Ariane 5 programme. Its performance in transfer orbit will be from 5,900 kg to 6,800 kg, and it will be far superior for putting elements of orbital infrastructures into low-Earth orbit.

(Mr. Louet, France)

With reference to manned flights, the Franco-Soviet and Franco-American flights of the 1980s were followed by flights in cooperation with the Russian Federation. The Antarus mission took place from 27 July to 10 August 1992; cosmonaut Michel Tognini remained for 12 days aboard the Mir orbital station, carrying out a number of experiments in life sciences and materials sciences. Early in July 1993 the Altair mission will take place, continuing earlier experiments to measure the biological effects of radiation and assess radiological risks during lengthy flights, the effects of heavy ions on electronic components, the effects of weightlessness on cardiac functioning, the arteries and veins, and the adaptation of the immune system. New experiments will study the dynamic parameters of the deployment of large space structures such as solar panels, aspects of neurological science, and the inauguration of the ultrasound system by French cosmonaut J. P. Maigneri from the Toulouse space centre. By the terms of a 1992 protocol, three further Franco-Russian missions will take place by the end of the century.

The Mephisto programme - a joint programme of the National Centre for Space Studies (CNES), the Atomic Energy Board (CEA) and the National Aeronautics and Space Administration of the United States (NASA) - will involve basic and applied research on solidification phenomena; there have been experiments on board the United States space shuttle to reduce natural convection and better to understand the mechanism of crystal formation.

Very recently, the German-United States Spacelab D-2 mission carried three French experiments involving the gradient heating facility developed by CNES, which made it possible to measure crystal growth and to carry out metallurgical experiments in microgravity conditions. During the same mission, two German and one Japanese experiments also made use of this French equipment.

(Mr. Louet, France)

With respect to planetary exploration, CNES is an active participant in the 1994-1996 Mars mission in cooperation with the Russian Federation. In terms of the 1994 orbital model, various instruments developed by CNES, the Centre for Space Radiation Studies (CESR) and the National Centre for Scientific Research (CNRS) will fly aboard the orbiter and the small stations for studying the composition of the surface and the gas and dust elements of the atmosphere of Mars, along with its magnetosphere and the interaction of these with the solar winds. The dynamic aspects of the ionosphere, the composition, density and temperature of ions, and the structure, dynamics and origins of plasma will also be studied. Seismic, meteorological and magnetic data will be collected.

For the 1996 mission, France's contribution will concern the payload of the aerostat.

Along with its United States, Canadian and Russian partners, France is contributing to the space segment of the international programme of research and rescue by satellite - Space System for Search for Distressed Vessels (COSPAS)-Search and Rescue Satellite-Aided Tracking (SARSAT). More than 20 States are establishing stations for receiving distress signals emitted by mobile objects in distress on land, in the air and at sea. An intergovernmental agreement linking the four parties guarantees that the space segment will be continued until the year 2003 and beyond, as well as guaranteeing free access to satellite telemetry.

The Arsène satellite was launched a few weeks ago; it will serve for radio-ham communications and has an apogee of 36,000 kilometres and a perigee of 20,000 kilometres over the equator. It will be of value also in the event of natural disasters and will help in establishing communications and organizing assistance.

(Mr. Louet, France)

The French programme for Earth observation is well known, and the data from SPOT satellites - designed in cooperation with our Belgian and Swedish partners - are enjoying increasing use and are helping developing countries better to understand their natural resources and their environment. In the fourth quarter of 1993 the SPOT-3 satellite will be placed in orbit. Since the French Government decided in July 1989 to develop a SPOT-4 satellite, the user community will be assured of continued access to this data through the turn of the century.

Other aspects have been added to this programme, especially in the area of oceanography, with the joint CNES-NASA-Topex-Poseidon mission, which is a central part of the World Ocean Circulation Experiment (WOCE). The launch took place in August 1992; the goals of the mission are: to study ocean circulation and its interaction with the atmosphere with a view to improved understanding of the climatic role of the oceans; to improve our understanding of heat transfers in the oceans; to create a model of the seas; to improve the geophysical study of the marine environment through altimetric measurements and the precise placement of markers on the ocean floor; and to calculate world-wide trends in sea-level variations, a gauge of the greenhouse effect.

This is a significant contribution to the implementation of the recommendations of the United Nations Conference on Environment and Development (UNCED).

Let me conclude by sharing some thoughts about space cooperation. Space technology is constantly developing and allowing for new applications. We are aware of what has already been described by other speakers: the variety of these applications and their beneficial effect on economic development, especially in the area of agriculture.

(Mr. Louet, France)

But owing to that development, space technology is no longer a homogeneous unit all of whose applications would be directly necessary for economic development. Space activities are increasing in number, but they are also diversifying. We must bear this in mind when we speak of cooperation in the area of outer space - to which, as members know, my country is strongly committed.

My delegation, Sir, is pleased to be participating, under your chairmanship, in this session of the Committee on the Peaceful Uses of Outer Space. We wish you good luck in carrying out the tasks before you and express our confidence in your experience.

Mr. SAHADE (Argentina) (interpretation from Spanish): The Argentine delegation is pleased to attend the thirty-sixth regular session of the Committee on the Peaceful Uses of Outer Space (COPUOS) and to express its best wishes to you, Ambassador Hohenfellner, to the other members of the Bureau and to the representatives of the countries gathered here. We wish in particular to congratulate Mr. Edgard Telles Ribeiro on his election as Rapporteur.

I wish to begin by reminding members that in Argentina space activities are the responsibility of the National Commission for Space Activities (CONAE), a civilian body created in late May 1991; it reports directly to the national President. The activities of CONAE focus on three basic areas: interaction with the universities, international cooperation and regional integration.

Thus, Argentina daily reaffirms its dedication to space activities for peaceful purposes exclusively, and to the development of scientific and technological research with a view to national development and environmental protection.

(Mr. Sahade, Argentina)

As we said last year, CONAE attaches the highest priority among its current activities to the completion of the SAC-B satellite: the satellite for scientific applications-B. Basically, this is a cooperative project with the National Aeronautics and Space Administration of the United States (NASA), with the participation also of the Italian Space Agency (ASI) and the Brazilian Institute for Space Research (INPE). In this project, money will not be transferred between the parties. With financial contributions from CONAE and a partial grant from our Secretariat for Science and Technology (SECYT), Argentina will be building the platform and one of the experiments, will obtain, install and operate the land-based segment, and will transmit scientific data to its users.

(Mr. Sahade, Argentina)

For its part, the United States will be providing a payload from Penn State University and another from the Goddard Space Flight Centre as well as the launcher - a Pegasus - and the launching facility. The Italian Space Agency, in turn, will be providing the solar panels and will be adding its own payload. As for the Brazilian contribution, it will consist in allowing us to use the laboratory in Sao Jose dos Campos for the final testing of the SAC-B and will also provide a Brazilian researcher who will participate in analysing the data from the Argentine experiment.

During the penultimate week of April in Bariloche, we held the critical assessment of the platform design. That exercise demonstrated the high calibre of the National Commission on Space Activities (CONAE) engineering team. As the Chairman of the Committee stated yesterday, we have now entered the construction phase of the satellite. The critical analysis of the payload design is scheduled for the second half of July and will take place in Washington D.C. The launching of the SAC-B satellite has been moved up a couple of months and is now scheduled for 30 April 1995.

This first step by Argentina in space activities with its own satellites will be followed by what we are calling the SAC-B programme - a programme of satellites using a platform based on the SAC-B platform. For this purpose, CONAE and the National Aeronautics and Space Administration of the United States (NASA) will be conducting in Buenos Aires, on 1 and 2 December, a workshop in order to hear proposals by Argentine scientists and scientists from the United States. If possible, CONAE would like to consider as the next step two future satellites which would be simultaneous, or almost simultaneous - a SAC-C with "looking at the earth" as its theme, and a SAC-D satellite which would perhaps be dedicated to what is now understood as "space sciences".

(Mr. Sahade, Argentina)

On 10 August 1992, the Institute of Applied Research in Space Sciences (IIACE) joined CONAE. The IIACE belongs in part to the National Council for Scientific and Technical Research (CONICET) and is located in Mendoza, in the central western part of Brazil. By agreement with the German Aerospace Research Establishment (DLR) the IIACE is constructing a multi-spectral air-transported scanner with charge-coupled device (CCD) technology and it is also conducting, by agreement with Germany and Brazil, development programmes for computer programmes to process satellite data obtained by synthetic aperture radar. The IIACE knowledge of, and interest in, remote sensing problems will be useful in helping CONAE to consider and resolve the problem in receiving and processing remote sensing satellite data in Argentina.

The IIACE's launching base for stratospheric balloons has been equipped appropriately and steps are being taken in order to make it an international base and to train the human resources that will make it possible for young Argentine scientists to participate in experiments that are conducted there. The dynamic meteorology laboratory of the National Centre for Space Studies (CNES) in France has already planned experiments with stratospheric balloons for 1994 from our base in Mendoza, and other countries have already shown interest in conducting experiments there at a later date.

In connection with the SAC-B project, our interest in contributing to the study of problems related to global change has led NASA and CONAE to consider an agreement that would make it possible to exchange information through a data network.

By taking these steps and at the same time consolidating steps already taken, CONAE is hoping to grow and offer a framework in which cooperation with other countries can be something natural and ongoing.

(Mr. Sahade, Argentina)

In addition to what we have already mentioned, we also have other agreements with the German DLR agency related to "astrodynamic problems" and "environmental problems in the western part of the province of Buenos Aires". As far as meetings are concerned, we are now able to announce that from 8-13 May 1994, Buenos Aires will be the venue of the third Space Conference of the Latin Americas, sponsored by the European Space Agency (ESA), and in November, the third meeting of the Space Agencies Forum (SAF).

I should also like to add that Argentina has resolved the problem of obtaining a communications satellite without any State financing and that the NAHUEL satellite, as it is called, will also benefit neighbouring countries.

The agenda before us is intensive thanks to the amount of work already done by the two Subcommittees. In particular, we would like to mention the constructive working atmosphere in the Legal Subcommittee and the progress it achieved in its work.

We will be referring to the individual items when they are discussed in the Committee.

We wish, however, to express Argentina's interest in encouraging the Committee to deal with the subject of space debris. At the last session of the Scientific and Technical Subcommittee, an informal agreement was outlined regarding the appropriateness of dealing with this question, stage-by-stage. My delegation supports that informal agreement on the understanding that the ultimate goal of our Committee is to contribute to the development of international law in this field.

Mr. REY (Colombia) (interpretation from Spanish): May I at the outset say how pleased my delegation is to see you once again presiding over a session of the Committee on the Peaceful Uses of Outer Space (COPUOS). Your

(Mr. Rey, Colombia)

presence in the Bureau guarantees the success of the work of the Committee and ensures objectivity in our dealing with the various items.

We are also very pleased to see the present composition of the Bureau, including as it does an outstanding Latin American, Ambassador Telles Ribeiro of Brazil, as Rapporteur. We are convinced that he will contribute very effectively to the conduct of our work.

My statement will be very brief since it is our intention to address the individual items directly as we move forward on our agenda. None the less I consider it important to make a few initial comments in order to assist delegations in familiarizing themselves with my delegation's thinking on the various items before us.

First, my delegation believes that the work that has been done in all countries in the area of outer space is very constructive. We have received reports from various delegations and have seen evidence of this in the Scientific and Technical Subcommittee. Colombia, within its limited means, has also been broadening its space activities, in particular in the field of telecommunications, meteorology and remote sensing of the Earth. This work has been accomplished in collaboration with other countries and international agencies.

In connection with the items on our agenda, my delegation believes, beyond a shadow of a doubt, that dealing with the peaceful uses of outer space is one of the most important items for us all. Hence there should be communication between this Committee and the Conference on Disarmament, precisely with the objective of urging countries to arrive at that fundamental principle of the peaceful uses of outer space as established in the 1967 Treaty. That is why we also welcome the new resolve of some delegations to

(Mr. Rey, Colombia)

use space for peaceful purposes and not to conduct a series of activities that in the past were put forward as their countries' policy.

Furthermore, my delegation would like to raise the importance of the question of space debris and the importance of its being discussed in subcommittee.

(Mr. Rey, Colombia)

As we see it, this is an item that is already ripe for consideration: enough progress has been made on it; we have done enough thinking about it; and we are very pleased to see that in all statements by all delegations there seems to be unanimity that the subject of space debris should be included on the agenda of the Committee on the Peaceful Uses of Outer Space.

My delegation also welcomes with particular interest the idea that has been put forward about convening a third United Nations Conference on the Exploration and Peaceful Uses of Space (UNISPACE 3). There is no doubt that convening a conference of this kind will be of especial use and assistance to the developing countries. In this regard, even though some speakers have said that the differences between developed and developing countries are obsolete - and no one wishes more than we that this were so - such is not the case. That is why our countries must continue to discuss these differences, and to convene relevant conferences with that in mind.

As far as the use of nuclear power sources in outer space is concerned, my delegation considers that the Principles adopted by the General Assembly should be put into practice, but that - although those principles must, of course, be respected - any new scientific developments that may occur in this field will of course influence the adaptation of those general Principles on the use of nuclear power sources. For that reason, we listened with interest to the thesis put forward yesterday by the delegation of Germany about resuming studies on the uses of nuclear power sources, while of course respecting the validity of the Principles that have already been adopted.

As regards the item dealt with in the Legal Subcommittee concerning the geostationary orbit and the definition and delimitation of outer space, the position of the Colombian delegation is well known to all delegations. It

(Mr. Rey, Colombia)

seems to me that some progress has been made on the definition and delimitation of outer space, thanks to the questionnaire - familiar by now to all delegations - which, under the auspices of the Chairman of the Working Group of the Legal Subcommittee, Mr. Estanislao Zawels, was finally completed at the Subcommittee's last session. We shall assess the responses to the questionnaire; we hope that they will be interesting and that they will lead to further progress on this item.

My country's position on the use of the geostationary orbit is well known too: at the last session of the Legal Subcommittee, we officially submitted the document, now before the Committee for its consideration, that proposes a set of draft rules for access to the geostationary orbit.

Our delegation also favours coordination of the Committee's overall programme with the work of the Commission on Sustainable Development. Of course, it is up to the Commission, whose substantive session begins here next week, to set the guidelines for such cooperation so that we can make common progress in dealing with this important subject.

Lastly, my delegation wishes to congratulate the delegation of Chile on the successful conclusion of the second Space Conference of the Americas this past April. We also wish to commend the Office of Outer Space Affairs on the seminars and workshops on space issues that it has so successfully held in my own country.

As I have said, my delegation will be speaking again on specific items as the programme of work permits.

Mr. POSTICA (Romania) (interpretation from French): Mr. Chairman, the Romanian delegation is pleased to be participating in the thirty-sixth session of the Committee on the Peaceful Uses of Outer Space (COPUOS) under

(Mr. Postica, Romania)

your competent stewardship. We are confident that, thanks to your experience and with the cooperation of all members of the Committee, this session's work will be crowned with genuine progress, in keeping with the hopes and expectations of all our countries.

Concerning the period since last session, your excellent introductory statement, Sir, highlighted a number of important space events and their impact on the development of science and technology. Recently, several States, and an increasing number of specialists, have been brought into the various space-related activities. Many of these achievements, some of which were mentioned in your introductory statement, are also included amongst the new applications benefiting the economies of many countries. Our Committee must ensure access by all countries to space technologies and applications.

With regard to space activities in Romania, I should like briefly to recall our determination to push forward with specific activities in this area that have practical applications. With our support Romanian researchers are participating in international efforts to broaden the knowledge of outer space and the physical and chemical processes that take place there. They are also engaged in studies of the Earth's biosphere and crust and of life in outer space.

Romania is committed to research into space technology and the use of that technology. For some years now it has been the only eastern European country to use the International Telecommunications Satellite Organization (INTELSAT) satellite telecommunications system. It has made current use of meteorological satellite data and is conducting many remote sensing pilot projects in agriculture, geology, hydrology, ecology, land management and, more recently, assistance in implementing the privatization of agriculture.

(Mr. Postica, Romania)

As part of its cooperation in scientific research into outer space, Romania has developed and built magnetometers, mass spectrometers, dosimeters, in-flight calibration systems for scientific-satellite on-board instruments, systems for studying cosmic rays and growing crystals under microgravity, and materials-and-data analysis from biosatellites. Thus our country has the necessary human resources for specialized research throughout practically the whole range of space activities and is capable of taking part in many international cooperative activities in the field of space research and the use of outer space for peaceful purposes.

At the present time, in order to broaden research into space technology and its applications, and also to make effective use of trained specialists and keep them in the country, we have set up the Romanian Space Agency, a governmental body directly under the Ministry of Research and Technology.

The profound political changes that have taken place in our country have made it possible to establish a new framework for scientific and economic cooperation with bodies outside Romania specializing in the area of outer space. Thus, Romania has become a member of INTELSAT, the International Maritime Satellite Organization (INMARSAT) and the European Telecommunication Satellite Organization (EUTELSAT). The first satellite telecommunication ground station in Romania is already operating. We have also begun to equip our seafaring vessels with satellite telecommunication and navigation equipment, some of which is produced by Romanian industry. Romanian industry has also specialized, moreover, in building ground receiving stations for data from weather satellites in polar or geostationary orbits; some equipment of this kind is exported and many users abroad are benefiting from it.

(Mr. Postica, Romania)

As has already been emphasized, Romania is interested in becoming fully part of international space structures. Thus, it has continued to cooperate in the INTERCOSMOS programme by participating in 1991, with Czech specialists, in the APEX experiment on the commemorative INTERCOSMOS-25 satellite by providing an SGR-7 triaxial magnetometer and an SGR-6 variometer for sub-satellite use. Other equipment - such as mass spectrometers for the SAS satellite; calculation equipment for the PRIRODA remote sensing project; neutron spectrometers for the MARS-94 and MARS-96 projects; and others - again through international cooperation, is now being built. Similarly, Romania has concluded a cooperation agreement with the European Space Agency. This is an important event and reflects Romania's desire to become part of European structures, including space activities, thus opening up new possibilities for the development of international space cooperation.

In conclusion, programmes for the research and application of space technologies are intended to meet the immediate needs of our economy and have been harmonized with international cooperation programmes that already exist or are under way and to which our research and industrial capacity can make an important contribution.

With regard to the agenda items before us, Mr. Chairman, your excellent introductory statement emphasized quite well the importance and the complexity of the problems that this Committee must adequately resolve. Briefly, we would recall, as other delegations have done, that we are in favour of solutions leading to broad international cooperation in order to ensure access by all States to space technologies as well as to their applications. We assure you of our full support for the success of this session of the Committee's work. Allow me also to thank Mr. Jasentuliyana, Head of the

(Mr. Postica, Romania)

Office for Outer Space Affairs, as well as the members of the Secretariat for their efforts in preparing for the Committee's session.

Mr. JAHEDI (Islamic Republic of Iran): May I take this opportunity, Mr. Chairman, to join the other representatives in congratulating you on your assumption of the chairmanship of the Committee on the Peaceful Uses of Outer Space. I wish you the greatest success. My delegation is confident that thanks to your diplomatic acumen, the Committee will be able to make considerable progress under your guidance. Moreover, I should also like to extend my deepest appreciation and gratitude to Mr. Jasentuliyana, Mr. Abiodun and the staff of the Office for Outer Space Affairs for their impeccable work during the past year.

Recent international political developments should encourage Member States, particularly the space Powers, to move towards the goal of preserving outer space exclusively for peaceful purposes. My delegation sincerely believes that outer space should be used only for such peaceful purposes for the benefit of all nations. In our opinion, creating public awareness among people in the developing countries of the benefits of various applications of space science and technology is of paramount importance.

In this regard, I should like to begin with a brief review of current space-related activities in my country. These activities include: the preparation of a land-use map of the entire country, on a scale of 1 to 100,000; the study of hydrothermal alternation zones in desert regions using satellite data; the survey of potential salt deposits in central Iran; the preparation, in conjunction with the Iranian National Cartographic Center, of a national atlas; a land-use study of the Baluchistan and Sistan provinces; the reactivation and upgrading of an Earth-resources satellite ground

(Mr. Jahedi, Islamic Republic of Iran)

receiving station; the acquisition of a high-resolution picture-transmission system for receiving National Oceanic and Atmospheric Administration (NOOA) data; the procurement of aircraft and sensor packages for conducting airborne remote sensing surveys, to be undertaken during the current year; the completion of a surficial extension of quaternary deposits and a features map of Iran; the establishment of a national committee for disaster prevention, warning, mitigation and relief; the projected operation of the Zohreh domestic communication satellites in 1995; the holding in Tehran of the fourteenth Asian Conference for Remote Sensing in mid-October 1993; and the establishment of the first provincial remote-sensing centre in the city of Mashhad.

In my delegation's view, the new political atmosphere in the world has created an unprecedented opportunity for the international community to take constructive and practical steps towards the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82). In accordance with the recommendations of UNISPACE 82 concerning the development of indigenous capabilities, and taking into consideration the importance of training and education in the space-related sciences, my country has initiated activities in preparation for a Regional Centre for Space Science and Technology Education, which the Islamic Republic of Iran has declared its readiness to host. My country is willing to provide its full support and cooperation for the establishment of the centre in Iran, which will be of benefit, particularly, to the developing countries. In this connection, we have allocated $1.5 million per year and provided appropriate space and teaching personnel for this purpose. We are looking forward to the visit of the evaluation mission scheduled, we hope, for the end of this month.

(Mr. Jahedi, Islamic Republic of Iran)

In addition, my delegation would like to fully support the holding of the third UNISPACE conference in a developing country, as mentioned in paragraph 20 of document A/AC.105/543, annex II.

As representatives are aware, the Islamic Republic of Iran hosted an international seminar, entitled "Remote Sensing in Environmental and Space Applications" in December 1992. I should like to thank the Director of the Office for Outer Space Affairs, Mr. Jasentuliyana, and the United Nations Expert on Space Applications, Mr. Abiodun, for their support in holding the seminar. The main objective of this seminar was to provide participants with the necessary technical information and evaluation of the most recent developments in the application of satellite remote-sensing technology for development, with a view to assisting the participating countries in the peaceful uses of space technology.

In our view, free access to space data, the transfer of technology and the strengthening of scientific, technical and training cooperation are among the areas in which the developed and the developing countries must work together to resolve their differences. In this regard, the establishment and strengthening of regional mechanisms and their promotion through the United Nations system can play a highly significant role in increasing international cooperation.

Mr. NEUHAUS (Australia): It gives us great pleasure, Mr. Chairman, to see you once again in the Chair of our Committee. It was under your wise and skilful leadership that last year the Committee was able finally to reach agreement on the principles for nuclear power sources in outer space. This had long been a matter which vexed and divided the Committee. So, this year, in a rejuvenated spirit of cooperation and consensus, we look forward to further progress on other matters before us. At the outset, let me also express my delegation's gratitude to Mr. Jasentuliyana and the staff of the Office for Outer Space Affairs for the useful background documentation which they have provided us. Their work and support is essential to the smooth operation of our Committee. We thank them for it.

Some delegations have very kindly expressed compliments to Professor Carver of Australia for his chairmanship of the Scientific and Technical Subcommittee. On his behalf, let me return his thanks for their kind words and their support in the Subcommittee. We had a very productive session of the Scientific and Technical Subcommittee this year. In particular, we had a useful discussion on the theme of space-based communications, which is of increasing importance in the daily lives of all of us. After some deliberation it was agreed that the theme for 1994 in the Subcommittee would be "Space applications for disaster prevention, warning, mitigation and relief". This, too, will be a timely theme, demonstrating the very practical orientation of the Subcommittee.

The Working Group on the Use of Nuclear Power Sources in Outer Space met again in the course of the deliberations of the Scientific and Technical Subcommittee. It took note of two helpful working papers submitted by the United Kingdom and the Russian Federation concerning safety aspects of nuclear power sources in outer space. Pakistan also provided an important paper. It

(Mr. Neuhaus, Australia)

was agreed that working papers and other information provided by Member States should provide a useful starting-point for discussion on the possible revision of principles.

We note from the report of the Subcommittee that it requested this Committee to consider whether the question of space debris should be included in the Subcommittee's agenda for the next session. Australia strongly supports such inclusion, with a view to developing good management practices and information exchanges. The problem of space debris is a growing one. The paper presented to the Subcommittee on "National Research on Space Debris" (A/AC.105/542 and Add.1 and 2) provides ample evidence of this. Many of those who have already spoken before me have urged the inclusion of this matter on the Subcommittee's agenda. It is also our belief that at this session we should be able to find a consensus approach which would allow us to do that. Having in large measure come to some resolution on the question of nuclear power sources in outer space, it is now also time to turn our attention to space debris.

Another issue discussed in the Scientific and Technical Subcommittee was the possibility of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space. It was suggested that this could even be held in 1995. Australia believes that this idea requires more careful consideration. With the wide range of events already being planned for 1995, which is the fiftieth anniversary year of the United Nations, it would seem difficult to fit the proposed conference into that year. In addition, we believe that more thought needs to be given to the objectives for any such Conference so that, if held, it will be practically oriented in a way that will provide positive benefits to all countries. We hope it will be possible to develop a common approach on this question at this session.

(Mr. Neuhaus, Australia)

My delegation also had the privilege of attending the meetings of the Legal Subcommittee under the excellent chairmanship of Mr. Mikulka of the Czech Republic. The focus this year was on geostationary orbit and on the application of the principle that the exploration and utilization of outer space should be carried out for the benefit of all interested States. The discussion advanced consideration of draft working papers provided by certain Member States. We believe this was a very useful discussion and that it underlined a theme that emerged also in the Scientific and Technical Subcommittee, namely, that of increasing cooperation between developed and developing countries in the use of outer space. Towards the end of the Legal Subcommittee's session there was some discussion regarding the length of its future sessions. While no final decision has yet been made, it is the view of my delegation that, in principle, the Legal Subcommittee should bring its meeting time into line with the allocation of time provided for the Scientific and Technical Subcommitteee and the main Committee.

In conclusion, I cannot but note that we expect change with regard to space affairs in the United Nations, following the proposal by the Secretary-General to move the Office for Outer Space Affairs to the Chairman's own home city of Vienna. This move will undoubtedly have ramifications for future meetings of the Committee. We look forward to continuing close contact with the Office for Outer Space Affairs through our embassy in Vienna and wish the staff of the Office well in their coming move. There is a Latin proverb which is the motto of Australia's oldest university: sidere mens eadem mutato. This means, "Though the stars change, the mind remains the same." As these changes occur for the Office for Outer Space Affairs, let them be assured that our commitment will always remain the same.

Mr. PASHOVSKI (Bulgaria): Let me, at the outset, express my delegation's satisfaction at seeing you, Mr. Chairman, in the Chair of this important Committee. I am sure that under your skilful guidance we will accomplish successfully the work ahead of us. Our words of respect go also to the other distinguished members of the Bureau. We should like to commend the efforts of the Chairmen of our two Subcommittees, who contributed significantly to the achievement of important progress during their respective sessions.

Bulgaria highly values the cooperative international activities carried out in the peaceful uses of outer space since the thirty-fifth session of this Committee. Considerable progress has been made in the past year, which was also International Space Year. In that period, through its major space-related institutions, such as the Institute for Space Research, my country expanded its contact with leading space agencies and centres. This cooperation is based on ackrowledged priorities in our space-related activities and, alongside our traditional beneficial relations with our Eastern European partners, a good foundation for cooperation has been established with space centres in the United States, Germany, France and Austria. We are looking forward to our joint work with the European Space Agency.

I should like to underline the highly valuable information and assistance which my country receives from the United Nations Office for Outer Space Affairs and other international space-related bodies.

Within the framework of international cooperation for the peaceful uses of outer space, Bulgaria participated in the development of the Priroda, or "Nature", programme, a remote-sensing project which is to be carried out next year on board the Mir space station. During the past year a considerable

(Mr. Pashovski, Bulgaria)

amount of research has been carried out in the field of application of space technologies for the needs of environmental protection and health care.

Along with the positive developments in the international climate, mutually beneficial cooperation in the research and exploration of space is becoming increasingly important. We see merit in enlarging the membership of this important international body and welcome all nations to join in the work aimed at promoting the interests of all States in this field. We find one of the major priorities of this Committee to be the promotion of further progress in dealing with such topical issues as ecological changes on both a regional and global scale.

(Mr. Pashovski, Bulgaria)

Another issue standing high on the Committee's agenda, in our view, is that related to the spin-off benefits of research and the exploration of outer space. I would like to underscore the crucial importance of providing access to space-related technologies and know-how, especially to the developing countries. We believe that the results of space research should benefit all nations.

Bulgaria is open-minded on the possibility of holding a third UNISPACE conference. In our view, it would enable us to elaborate and put forward a practical and action-oriented programme for the research and exploration of outer space for peaceful purposes; UNISPACE III would help us face the challenges of a constantly changing world.

I would like to conclude my initial remarks now, once again wishing all delegations a fruitful and constructive session. My delegation will take the opportunity to address some of the issues on our agenda during the forthcoming deliberations.

Mr. BRAIBANTI (United States of America): My delegation would like to join you, Sir, in expressing satisfaction over the positive developments that have occurred over the past year in the Committee and its Subcommittees. Indeed, we believe that the Committee is making real progress towards focusing its efforts on serving as the chief protagonist in the United Nations system for international cooperation in the peaceful uses of outer space. As we are all aware, this has not been easy, and our most important accomplishments have come only after long and serious negotiations culminated by compromise on the part of all Member States. Although there have been many outspoken sceptics in the past, the positive results we see today demonstrate that the principle of consensus can work effectively.

(Mr. Braibanti, United States)

Changes in the world political scene continue to raise challenges to, and opportunities for, broadening and deepening cooperation in the use and exploration of outer space for peaceful purposes. We must position ourselves to take full advantage of these opportunities and avoid those extraneous issues, such as disarmament, which have created points of contention in this Committee in the past.

We are optimistic, based on the encouraging signs that we saw during the 1993 session of the Scientific and Technical Subcommittee. That session addressed a full range of international space activities and was rich in technical presentations on important questions by leading experts from both developing and developed countries. It now appears that COPUOS is on the right track in seeking to strengthen the scientific and technical underpinnings of its work. My delegation will have further specific comments to make on the substance of the Committee's work during our debate on the relevant agenda items.

Outer Space Committee members have long agreed that strengthening international cooperation in the exploration of outer space implies the need for the Committee and its Subcommittees to improve wherever necessary the methods and forms of their work. We have yet to see the sort of substantial changes that we believe are required to put COPUOS and its Subcommittees on a thoroughly businesslike footing. But we recognize that some real progress has been made, particularly in addressing the perennial problem of the Legal Subcommittee's organization of work. We applaud the action taken by the Subcommittee in agreeing to specific measures that will improve its efficiency.

Last year we concluded the celebration of the International Space Year (ISY). I think that all Member States will agree that the spirit of

(Mr. Braibanti, United States)

cooperation embodied by the events in 1992 was a fitting celebration of the 500th anniversary of Columbus's voyage to the New World and the 35th anniversary of the International Geophysical Year. In this regard, my delegation wishes again to express our deep satisfaction with the work of the United Nations Space Applications Programme, led so ably by Dr. Abiodun, on ISY activities.

In conclusion, let me reiterate my delegation's full commitment to working with all Member States on making the work of this Committee as relevant as possible to the ever expanding opportunities for international cooperation in space exploration.

Mr. HARASICH (Chile) (interpretation from Spanish): I wish first, Mr. Chairman, to congratulate you on your election. My delegation is sure that your skills and experience will be of great assistance to the successful completion of the work entrusted to us.

We have an important agenda to deal with, as a result of the work and proposals of the Scientific and Technical Subcommittee and the Legal Subcommittee, as well as of the recommendations of the General Assembly.

Talk of the peaceful uses of outer space and the utilization of outer space for the benefit of all mankind is no longer just an expression of good intentions, but has become in the United Nations system a commitment of the utmost importance. None the less, we must continue to try to ensure in the most effective way possible that these proposals, these good intentions, lead to norms and commitments that more effectively guide the conduct of States in these matters.

Our delegation is particularly concerned about the need for outer space to be a place where mankind may meet in peace and for peace, where mankind can

(Mr. Harasich, Chile)

develop its projects and apply the inventiveness of the human race to achieve progress and happiness. In this context, we hope that the human conscience will ensure that the benefits of these achievements are shared in a just and equitable way, bearing in mind in particular the situation and condition of the less developed countries.

I repeat that outer space and the application of the advances that the exploration of outer space produces should be a great meeting ground for the peoples of the planet. International cooperation undoubtedly has a great potential for development. If we approach this cooperation on the basis of solidarity, we can find in it an important springboard for mankind's development and peaceful understanding among peoples.

The magnitude of the challenges posed by outer space also requires that we combine our individual efforts, no matter how advanced certain countries may be at present. The size of the task, which we have only just begun, is such that we must do our best to cooperate effectively to meet the challenge before us.

My Government believes that the progress we are making in this Committee, sometimes criticized for its seemingly slow pace, is contributing to laying the foundations for the ideas that we have put forward to become a reality. It is true that we must work harder to make progress on the UNISPACE 82 items, and seriously consider elaborating on them and adapting them to new realities. That is why we favour convening a third UNISPACE conference, which would give a new impetus to the objectives of the United Nations in this field.

We also consider it appropriate to emphasize our country's interest in being the site of the headquarters of a regional centre for space science and technological studies. In this respect, we have increased our contacts with

(Mr. Harasich, Chile)

the Office for Outer Space, to which we have expressed our Government's support at the highest level for this initiative.

In 1991 in COPUOS our country offered Santiago for the holding of a second space conference for the Americas. The conference is a unique effort at the regional level to apply the ideas of international cooperation and regional integration in the field of outer space. The first, held in San Jose, Costa Rica, was an important milestone because it showed the need to progress at the regional level in a coordinated way and to establish formal cooperative links with countries and agencies of the more advanced world.

(Mr. Harasich, Chile)

When we envisioned holding this conference at Santiago, we intended to make genuine progress beyond what had already been achieved. Thus, the various Chilean Government organs involved in the task, such as the Commission for Space Affairs and the Ministry of Foreign Relations, spared no effort to ensure its success. Following a preparatory meeting in January, at which we agreed on rules and on the agenda, we tackled the substantive aspects of the second Space Conference of the Americas, which took place in April.

I can say frankly that the response from countries and agencies alike greatly surpassed our expectations. We had the honour of welcoming delegations from 38 countries and 14 international space organizations, for a total of 467 participants. As participants have declared, this made it possible to hear interesting and varied presentations, in which distinguished scientists and policy makers described their work, their thinking and the way in which their countries were working for the use of space technology for peaceful purposes and for the benefit of development and the progress of their peoples.

The papers submitted by participants and the manifest growing interest in cooperation and in pooling efforts were a clear sign that we are on the right path, which gives us grounds to hope for a better future for our nations. That was confirmed by the presence of delegations from other continents - Europe, Africa and Asia. I cannot fail to highlight the interest shown by countries such as France, Spain, China, the Russian Federation and others, and by agencies such as the European Space Agency, the National Aeronautics and Space Administration of the United States (NASA) and the National Space Development Agency of Japan, among others; they offered their technology and experience to join with countries of the Americas in specific

(Mr. Harasich, Chile)

development-oriented programmes. The rich debate made it possible for the committees and subcommittees to do good work; they considered a large number of projects and statements and approved and recommended 35 of them.

That shows the interest and serious-mindedness of the participating countries and agencies; it is but one aspect of the Conference's great impact on the participants. Perhaps more important still was the opportunity to share ideas and experiences, to get to know one another and to establish closer links.

It is also important to note that the recommended projects require the countries involved to make their own contributions as national participants. This is international cooperation in its strongest form, with a firm commitment by countries that propose projects.

The region's political agreement was reflected in the Santiago Declaration, the central document of the second Space Conference of the Americas; it will have a great impact over time. The document's 14 points stress the shared wish that our system of relations in this sphere should be based on the principles of cooperation, integration, the peaceful use of outer space, fair access and distribution of the benefits of the exploration of outer space and coordination of national programmes.

To implement these proposals and properly follow up the endorsed projects, it was agreed to establish an ad hoc secretariat to deal with this work until the next conference. The ad hoc secretariat, to which all participants were committed and for whose establishment Chile was responsible, will ensure that the results will have their proper impact. Chile is at work on this, and we hope that the secretariat will be fully functional very soon. We fully understand the future implications of this body and all the benefits it will bring to the developing countries of the Americas.

(Mr. Harasich, Chile)

Certain paragraphs of the Santiago Declaration reflect the interest of participants in having the United Nations, through its specialized agencies and other bodies - such as the Office for Outer Space Affairs, the Economic Commission for Latin America (ECLA), the United Nations Development Programme (UNDP) and so forth - continue to support this initiative by providing the support necessary to follow up the decisions of the Conference. With respect to the decentralization of the organization, special mention is made of the need to provide ECLA with the support and human and financial resources needed to carry out this task.

I have no doubt therefore that the second Space Conference of the Americas was an important milestone on the path to which we are committed. It deserves recognition also because of its focus on mankind and its environment. The important ideas developed at the Conference can contribute to the implementation of Agenda 21; our debates were guided by the preservation and improvement of the environment.

For all those reasons, we are pleased to have had the opportunity of hosting the Conference at Santiago; on behalf of the Chilean Government, we thank all those who made the Conference possible: the countries, the agencies, the United Nations - particularly the Office for Outer Space Affairs, UNDP and so forth - and especially all those who brought to the Conference their efforts, their work and their intelligence.

We request this Committee to include the Santiago Declaration in its report, as an expression of the desire of one region to make a resolute contribution to the understandings we want to reach.

Finally, we are certain that in the coming stages we can count on the full support of the international community and the United Nations. The work

(Mr. Harasich, Chile)

will be intense and it must be completely successful for the results of the second Space Conference of the Americas to enable us to continue on the path of development and progress for our peoples, through integration and cooperation among all the nations of the Americas, with the valued participation and assistance of nations of other regions - which is essential if we are to achieve not merely greater well-being but also the hard-earned peace we all want to survive.

Mr. TURAY (Sierra Leone): The current session of the Committee on the Peaceful Uses of Outer Space (COPUOS) gives us an opportunity to assess the continuing role of the Committee in fostering international cooperation in the area of space activities.

Before making my delegation's contribution to that assessment, Mr. Chairman, I would like to take this opportunity to extend to you, on behalf of my delegation, our appreciation for the manner in which you are guiding the proceedings of this Committee. Here at the United Nations, we have come to respect and admire your outstanding qualities of leadership, integrity and balance - qualities which you have placed not only at the disposal of your country, Austria, but also in the service of the international community as a whole. We feel confident that, under your guidance, this session will meet its objectives. I would also like to congratulate the other members of the Bureau on their election - and, of course, the Secretariat on the excellent work they are doing.

As we meet here, the developing countries find it increasingly difficult, owing to the current global economic situation, to forge ahead and pursue development projects on national and international space activities that would enhance our self-reliance in development.

(Mr. Turay, Sierra Leone)

It is against that background that we listened to the lucid statement by the Chairman, in which he outlined the events which have taken place in the area of the peaceful uses of outer space during the past year, including the work of the Committee's Scientific and Technical and Legal Subcommittees. I should like on behalf of my delegation to thank the Chairman of the Committee and the Chairmen of the Subcommittees, Mr. John Carver of Australia and Mr. Vaclav Mikulka of the Czech Republic, for the splendid work they have done during recent sessions.

The use of nuclear power sources in outer space has been under consideration by COPUOS and its two Subcommittees for over 12 years. My delegation welcomes the adoption last December of the Set of Principles Relevant to the Use of Nuclear Power Sources in Outer Space. This occurred only after long and difficult negotiations which involved concessions and compromises by all parties. We urge that until they are revised, the Principles which have been adopted be given full support and be implemented by the international community.

The problem of space debris is growing. It represents a serious threat to present and future space activities with longer-duration exposures of spacecraft and astronauts. It also entails the risk of collisions with nuclear power sources in space. It is the view of my delegation that space debris be placed on the agenda and discussed as a separate item by COPUOS this year.

(Mr. Turay, Sierre Leone)

Another area of concern to my delegation is the availability of remote sensing data to developing countries. As developing countries rely on remote sensing in mapping their resources, studying the environment and handling natural disasters, we are concerned over the growing commercialization of remote sensing data. While acknowledging that the space Powers have invested a lot of resources and technology in acquiring and processing remote sensing data, it would be appropriate if, in the interest of wider dissemination of this technology, the economic difficulties of the developing countries were taken into account. My delegation submits here that access to this technology be facilitated and made available at reasonable terms to developing countries that are in need of it to sustain their development.

Before concluding, let me briefly touch on three important issues which are of much concern to my delegation. There is a keen awareness that spin-off benefits continue to provide new techniques in various fields of humnn endeavour. In this regard, we would like to see a significant increase in bilateral and multilateral financing of relevant training and technical assistance programmes to the developing countries on space activities and hence we wish to call for the holding of a third United Nations space conference. There is hardly a better forum for promoting cooperation and understanding in space activities than that provided by such a meeting. We therefore support the holding of such a conference in 1995 so as to afford Member States an opportunity to reassess the achievements of the last conference and plan a future course of action in the next decade.

Regarding the ongoing process of restructuring the United Nations Secretariat and the Secretary-General's proposal to transfer the Office for Outer Space Affairs to Vienna, my delegation supports the Mexican proposal as

(Mr. Turay, Sierre Leone)

it emphasizes that Committee members would continue to participate fully in the meetings of the Committee on the Peaceful Uses of Outer Space (COPUOS) and its Subcommittees should the transfer be implemented.

Mr. DIRAN (Indonesia): At the outset I would like to express the sincere gratitude of my delegation at seeing you in the Chair at this thirty-sixth session of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS). My delegation is confident that your able guidance and wisdom will once again steer our deliberations to a successful conclusion. We note with satisfaction the work of the two Subcommittees during their recent sessions, chaired by Mr. John Carver of Australia and Mr. Vaclav Mikulka of the Czech Republic.

My delegation would like to commend you, Mr. Chairman, for the extensive, comprehensive and precise statement on the events and developments which took place recently in the sphere of outer space affairs. We are grateful for the work of the Office for Outer Space Affairs, under the effective direction of Mr. Jasentuliyana, and of the Expert on Space Applications, Mr. Abiodun, for their efforts in preparing for the thirty-sixth session and the other tasks they carried out to ensure its success.

At the turn of the century, we would like to reflect on the current events now reshaping the world of tomorrow. Space science and technology in the past 40 years has established itself as the dominant driving force for the rapid and fundamental changes now occurring and presenting new opportunities for mankind. In this regard, several global trends should be noted: the population explosion, primarily in the developing countries; the tremendous impact of science and technology in all aspects of life; an increasing internationalization and a gradual disappearance of economic borders

(Mr. Diran, Indonesia)

world wide; the limits of energy and natural resources; a heightened concern for environmental protection and the growing importance of human rights.

As we are aware, all that was observed in the last 20 years will become more pronounced in the last decade of the twentieth century. It is against this backdrop that we must deal with the imminent problems in three main areas: the socio-economic field, and the natural and the cultural environments.

Travel in outer space has revealed the oneness and the outstanding beauty of our Planet Earth. Therefore all peoples living in it, whether developed or not, should enjoy it equally, and work together to face the great problems challenging humanity in bringing harmony and understanding among nations. Therefore it is to be expected that the twenty-first century will call for world-wide rather than national solutions if humankind is to meet the population, environmental, economic, energy and cultural challenges.

We note with satisfaction the further lowering of tensions through unilateral, bilateral and multilateral actions, such as the ending of the Strategic Defense Initiative programme recently, and accelerating the conversion of military industries and technologies for civilian and peaceful uses. We note the importance of the contributions of the Conference on Disarmament in this matter, and my delegation would therefore like to underline the importance of information exchange mechanisms and working contacts between COPUOS and the Conference on Disarmament.

That being said, and against this background, permit me now to report some Indonesian endeavours to develop space science and technology and their applications for sustainable development.

(Mr. Diran, Indonesia)

We plan to continue our efforts to obtain a better understanding of global climatic change. We are applying remote sensing techniques for mapping the vast areas of East Indonesia - the focus of our next 25-year national development plan. We plan to develop tele-education programmes, satellite medical care and disaster relief capabilities and services and also to establish a national centre for remote sensing education, research and development.

Indonesia has signed an agreement with the United States for cooperation in scientific research and technological development. Under this agreement a Memorandum of Understanding with the National Oceanic and Atmospheric Administration (NOAA) on collaboration in climate research and a study of Indonesian ocean circulation and mixing was signed. In November 1992, in collaboration with NOAA, a wind profiling radar station, constructed on the Island of Biak, began measuring atmospheric wind movements. Indonesia is negotiating an agreement with the European Space Agency (ESA) within the framework of the European Community-ASEAN (Association of South-East Asian Nations) Regional Radar Remote Sensing ERS-1 Project. Discussions are also under way to reach an agreement on a natural resources and environment management project between Indonesia and ESA.

Indonesia is involved in the German Precise Range and Range-rate Experiment (PRARE), and a joint experiment on space communications using the Engineering Test Satellite V (ETS-V) between Japan and Indonesia was started early in 1993.

A satellite remote sensing tracking and data receiving facility was commissioned at Pare-Pare in February of this year, which is already producing data for domestic and regional uses. Our domestic telecommunication satellite

(Mr. Diran, Indonesia)

programme reached a milestone by its choice of the company, to design, manufacture and assemble the next PALAPA-C generation satellite. To prepare for the future, an important part of the programme involved the education of young engineers through on-the-job training in the design, manufacture and assembling process of the satellite. Negotiations are currently going on to decide on the launch vehicle of this next generation telecommunication satellite, planned to take place in 1995, followed by a back-up in the following year. This satellite will be designed for domestic as well as regional coverage of the neighbouring countries. This is Indonesia's first endeavour to enter the very competitive telecommunication market in the Pacific Rim area.

In the framework of the 1992 International Space Year Programme of Activities, Indonesia organized a seminar on space communications and two seminars on remote sensing at the end of 1992.

Indonesia's main contribution to the 1992 International Space Year Programme was the United Nations/Indonesia Regional Conference on Space for Sustainable Development, which took place in May in Bandung, the historic city of the Asia-Africa movement of nearly 40 years ago. The conference was well attended by policy and decision makers, professionals, scientists and engineers from Asia, Europe and America. It was the first United Nations sponsored conference of its kind for Asia, following the example of the space conference in Costa Rica. The conference was also attended by a number of national and regional organizations, as well as non-governmental institutions. Plenary and technical sessions focused on topics concerning environment and climate observations, remote sensing, space communications, space science and technology and its applications, future development, cooperation and commercialization of space, and human resource development.

(Mr. Diran, Indonesia)

There was a rising awareness in the panel discussions and workshops at the Bandung conference of the need for coordination and cooperation in common areas of interest related to national and regional sustainable development, including, but not limited to, solving problems such as public-awareness building; national and regional space institutions and policy-building; decision-making; human resource development, education and training; telecommunications; remote sensing; global climate change; and the development of indigenous science and technology bases in the region. Many participants agreed to recommend holding conferences of this kind on a regular basis in future, in various countries of the region, with themes to be decided in the future.

Indonesia also participated actively in the Asia-Pacific Workshop on multilateral cooperation in space technology and applications in December last year in Beijing. Indonesia participated in the second Space Conference of the Americas in Santiago early this year.

Indonesia continues to propose to host the United Nations regional centre for space science and technology education. However, the changing political and economic environments seem to indicate that innovative alternative approaches are needed, such as networking between existing national centres of space education in the region, to achieve the objectives of providing long-term education, training and research in space matters and in space technology and the applications thereof.

These are but small and modest contributions to the world-wide efforts of the Committee on the Peaceful Uses of Outer Space (COPUOS) to establish awareness of space and space technologies for sustainable development. Indonesia is committed and is prepared to do more to establish regional

(Mr. Diran, Indonesia)

cooperation in space, be it scientific or technical, specifically in the fields of global climate and remote sensing, beneficial to each and all countries in the region.

I should like once again to invite collaboration with Indonesia to make use of the unique geophysical features of Indonesia, a land surrounded by sea. In particular, we should like to establish cooperation projects on problems of environmental concern, the pollution of the atmosphere in equatorial and other regions, and the development of applications of space and space technologies for sustainable development.

Permit me now to mention some of my delegation's concerns. We observe the alarming escalation of the number of telecommunication satellites in the skies above the Asia-Pacific region that aim to provide telecommunication and broadcasting services to countries in the region, straining the already limited availability of slots in the geostationary orbit (GSO) and of frequencies available, and also the prospect of a host of small and large low-Earth-orbit satellites circling in lower orbits, which are, incidentally, also a limited resource.

Progress cannot and will not be stopped. The commercialization of space is a fact. However, taking into account the countries currently not in a position to make use of available opportunities, be it due to lack of resources and/or technology, my delegation would like to be assured access to the GSO. As a limited natural resource, the GSO should be used rationally and equitably for the interest of all countries taking into particular account the special needs of developing countries. It is thus of particular urgency to establish a sui generis legal regime for the GSO that would guarantee and establish the right of all States, in accordance with their legitimate needs and aspirations, now and in the future.

(Mr. Diran, Indonesia)

Thus, we would like to see, through a process of identifying principles of international law, a framework for the development of the rules and regulations concerning and governing the access to space, the peaceful uses of space, its exploration, exploitation, industrialization and commercialization for the benefit of each and every country.

It is the opinion of my delegation that the legal principles relevant to the use of nuclear power sources in outer space, on remote-sensing and direct-broadcasting satellites and so on should contribute towards the codification of international space law.

The development of international space law must take into strong consideration the protection of our precious and fragile environment. In this context, my delegation would like to note the matter of space debris, in particular the possibility of space debris re-entry, a source of anxiety for many developing nations.

Space pollution has reached space proportions indeed. Occasional re-entry of large debris is a source of anxiety to many on Earth. The Skylab incident in Australia, the nuclear-powered, Russian KOSMOS-954 crash in Canada, and troubles with KOSMOS-1900 serve only as ominous warnings of future mishaps on much larger scales. The time has come not only to design future missions to minimize orbital debris but also to clean up what is already there. Large-scale future operations in space, of which the International Space Station and the Aerospace Plane are only two ready examples, cannot be considered without consideration of the risks of space junk re-entering the atmosphere. We call on the developed nations to spend time and resources to study the problems of space debris re-entry and its possible effects on people and property on Earth.

(Mr. Diran, Indonesia)

In a more general sense, it is my delegation's opinion that now is the time to identify the principles for rules of behaviour to preserve the space environment. At present we are in the space era, where modern technology has made possible the discovery and exploration of space. But any space activity may affect the Earth, as well as heavenly bodies and space in general. Contamination and pollution could pose a threat for space exploration, for space systems, and man on Earth. Hence, the objectives of the study are to identify the principles, values and rules of behaviour that must be followed to maintain the equilibrium between our ecosystem and space aimed at the future development of a legal framework of international law in space. It is with all this in mind that my delegation supports the proposal to discuss the matter of space debris as an item on the agenda of COPUOS.

My delegation would like to express its profound satisfaction at the adoption of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, and supports the idea of reviewing the said principles within two years after their adoption.

My delegation would like to reiterate that the use of nuclear power sources in space activities must take place only where there is no possibility of using other energy sources. In this regard, we should like to propose that the United Nations compile and distribute data and information on the technical aspects and numbers of satellites using nuclear power sources. It is also important to make available data and information on spacecraft collisions in space.

My delegation would like to call upon the representatives at this session to endorse and support the proposal of my colleague of India to convene the third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, to take place, in a developing country, as early as 1995.

(Mr. Diran, Indonesia)

My delegation takes note with satisfaction of the theme for the next session of the Scientific and Technical Subcommittee, "Space applications for disaster prevention, warning, mitigation and relief". We call upon delegations to recognize the importance of the substance of the theme, as, in the past, on several occasions, weather data and information that were not provided in time and the unavailability of a communication system resulted in grave disasters in which many lives were lost.

In this context, and in a general sense, my delegation would also like to note that space information must be made available to all at reasonable cost, taking into particular account the valid needs of developing countries.

In conclusion, I should like to reiterate our firm commitment to the efforts of the Committee for the benefit of us all.

Mr. AYEWAH (Nigeria): Mr. Chairman, allow me to convey to you and the other members of the Bureau the good wishes of the Nigerian delegation. We are confident that under your guidance our Committee will conclude its work during this session satisfactorily.

The potentials of space science and technology in various areas of human endeavour continue to encourage all countries, irrespective of their levels of development, to accept the merit of interdependence and cooperation in the peaceful uses of outer space. Over the years, the efforts of the Committee on the Peaceful Uses of Outer Space (COPUOS) have borne meaningful results in the quest to regulate international behaviour in the exploration and utilization of outer space. We are today delighted that it was possible for the Committee to conclude last year the Principles Relevant to the Use of Nuclear Power Sources in Outer Space.

(Mr. Ayewah, Nigeria)

The achievements of this Committee have been made possible by the sustained efforts and contributions of both the Legal and the Scientific and Technical Subcommittees. It is for this reason that my delegation welcomes the report of the thirtieth session of the Scientific and Technical Subcommittee, held under the chairmanship of Mr. Carver of Australia, as contained in document A/AC.105/543 of 5 March 1993. We also welcome the report of the thirty-second session of the Legal Subcommittee, held under the chairmanship of Mr. Mikulka of the Czech Republic, as contained in document A/AC.105/544 of 15 April 1993.

On the work of the Scientific and Technical Subcommittee, my delegation would like to refer to the twin agenda items of the United Nations Programme on Space Applications and the coordination of space activities, as well as the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, which we have always considered as priority items. We believe that their importance and contribution to development efforts, especially to those of the the developing countries, merit the provision to them of adequate human and financial resources from the regular budget of the United Nations in order to facilitate the implementation of the various programmes. We also believe in the broadening of the content of bilateral and international cooperation in order to make space technology available to all countries. In this respect, Nigeria wishes to reiterate its willingness and commitment to host the African regional centre for space science and technology. We equally commend all those countries, institutions and agencies that have endeavoured, and continue to make contributions, to improve the financial base of the programmes.

Remote sensing by satellite represents a key area in resource evaluation and management. In this respect, my delegation believes that access to its technology should be affordable, appropriate and non-discriminatory.

(Mr. Ayewah, Nigeria)

The basic principle underlying the 1967 outer space Treaty is the need to explore and utilize outer space as the common heritage of mankind. The provisions of the Treaty, put together, logically call for the non-militarization of outer space.

The danger of the proliferation of satellites with various attributes, capacities and missions in today's volatile world is very real. It will be the purpose of our Committee to ensure that outer space remains a peaceful province for the promotion of human development and international cooperation.

Turning to the report of the Legal Subcommittee, my delegation is delighted to note the progress that has been made in carrying out its mandate. We note, in particular, the continuing efforts to break the impasse on the definition and delimitation of outer space. The wide acceptance of the Russian Federation working paper represents a step in this direction. Even though several questions remain to be answered, we are optimistic that an acceptable conclusion can be reached in the immediate future.

Similarly, my delegation welcomes the introduction of the working paper on the geostationary orbit submitted by Colombia. We are certain that, given the necessary political will, discussion of the paper will bear fruitful results. However, it is the wish of my delegation to reiterate its firm belief that outer space, including the geostationary orbit, should remain the common heritage of humankind, to be equitably explored and rationally used for the benefit of all States, taking into special account the needs of the developing ones among them.

Deliberation on the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit of and in the interest of all States encourages my

(Mr. Ayewah, Nigeria)

delegation to note that there is indeed an emerging willingness to elaborate the basic principles that would regulate the exploration and use of outer space. My delegation welcomes the introduction of the working paper by Brazil, which showed significant progress towards establishing a legal framework for international cooperation in the exploration and utilization of outer space for peaceful purposes. Nigeria believes that in order to eliminate, or at least minimize, the inequalities created by the wide gap between the scientific and technological base of the developed countries and that of the developing countries, as well as the inequitable access to space science and technology, there is a need to elaborate expeditiously a legal framework, as part of international space law, to enhance cooperation and guarantee access to the benefits of outer space.

Another issue of concern to my delegation relates to the increasing global attention being given to the question of space debris. That concern has become extremely strong, in view of the proliferation of satellites and other space objects in orbit. My delegation believes that the subject should be inscribed as a separate agenda item during this session of the Committee.

My delegation is aware of the discussion that was held during the Scientific and Technical Subcommittee meeting on the proposal to hold a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE). Delegations will recall that the second UNISPACE conference was held in 1982. The evolution of space science and technology has developed its own momentum and dynamics since then to warrant the holding of a third conference in order to assess the gains and chart a future course of action into the twenty-first century. Nigeria has already pronounced itself in full support of the proposal to convene this conference. We also support

(Mr. Ayewah, Nigeria)

converting the Working Group of the Whole to serve as the preparatory committee for the conference. This proposal deserves the endorsement of this Committee, and we hope to see it fructify during this session.

Finally, I should like to briefly touch on the question of the future venue of the meetings of the subcommittees. My delegation is aware of the eventual move of the Office for Outer Space Affairs to Vienna as part of the current restructuring exercise being undertaken by the Secretary-General of the United Nations. Nigeria's position on this issue will be flexible, to accommodate the best interest of our Committee. We are confident that there will be an acceptable arrangement.

Mr. STRAUSS (Canada): As this is the first time, Mr. Chairman, that my delegation is intervening in this session, may I express our satisfaction at seeing you in the Chair, and may I assure you of the full cooperation of our delegation in achieving the work of the Committee. I also wish to take this opportunity to congratulate Mr. Telles Ribeiro on his election as Rapporteur.

(Mr. Strauss, Canada)

The past year has been an important one in space science. The very fundamental political and economic changes which are taking place in the world are increasingly affecting research, development and exploitation of outer space. Many countries are shifting expenditures from military to peaceful purposes, and this is also affecting the space field. There is an increased emphasis on international cooperation in order to share the costs of space projects and, at the same time, several spacefaring nations are closely examining their space budgets. Some commentators speak of a fundamental restructuring, while others speak of strong new trends in space research; but it is certain that the way space programmes are executed in the remainder of the 1990s will differ substantially from the ways of the previous two or three decades.

These same trends have been evident in Canada. We are affected by the decisions of our partners in both the major international space projects and the smaller ones. The Canadian space programme will continue to strive to be as effective as possible with the resources granted to it, and international cooperation will continue to be an important way of deriving maximum benefits from the space programme.

During the past year, Canada was particularly pleased that the Set of Principles Relevant to the Use of Nuclear Power Sources was adopted by the General Assembly. This was the crowning achievement of many years of effort by this Committee and its Subcommittees. In reaching consensus, it was necessary for most countries to be flexible on some of the issues they had wanted to have included in the Principles. No doubt there are different views even today on how the Principles could be amended or improved. However, the Principles, as they stand now and as they have been approved by the General

(Mr. Strauss, Canada)

Assembly, will remain in force until such time as a new consensus is established on improvements that could be made. My delegation looks forward to working with other members of this Committee in a cooperative spirit to strengthen further and improve the Principles and to widen the scope of their application.

We are pleased to observe that during the past year increasing attention has been focused on the space-debris problem. The First European Conference on Space Debris, held in Darmstadt, Germany, from 5 to 7 April of this year, made an important contribution to increasing our knowledge of the dimensions of the problem and facilitating the exchange of information among the member countries. One of its main conclusions was the apparent consensus that, while the problem of space debris does not yet represent a critical danger, immediate action must be taken to prevent this from happening. The other important conclusion of this Conference was that the problem of space debris can be solved only through international cooperation for the prevention of the creation of such debris.

We are also pleased to note that an international technical study concerning space debris will be organized under the auspices of the National Research Council of the United States of America to advance further the state of our knowledge and advance possible solutions to mitigate the problem.

My delegation believes that it is important to appreciate that some countries with space-launching capabilities have already taken important steps to minimize the amount of debris that is generated. One example is the reduction of the risk of explosion through the venting of fuel tanks. In addition, some of the countries with the largest space programmes have also been at the forefront of the research effort into the space-debris problem.

(Mr. Strauss, Canada)

Canada has also been active in this field through the implementation of a number of design modifications to reduce the vulnerability of the RADARSAT Earth observation satellite against space debris. RADARSAT is to be launched early in 1995. Further, a space-debris impact-testing programme was set up with the Hypervelocity Impact Research Laboratory of the Johnson Space Center of the National Aeronautic and Space Administration (NASA).

Important progress has been made in the last few years, and indications are that this will continue in the future. We believe that some of the work that still remains to be done includes the following: first, sharing the information already available on the work done by various countries on all aspects of the space debris issue, from detection of orbiting objects to modellization to design procedures for spacecraft and launchers. The various national and international studies under way will be of assistance in this regard. Secondly, steps to mitigate space debris already taken by some countries with launch capabilities need to be broadened to cover all organizations and countries which have launch capabilities today. Thirdly, further research needs to be done to understand better the problem of space debris and propose additional steps, beyond those already in place, that can be taken to minimize the creation of space debris and to protect assets and human lives in orbit.

We look forward to working with other members of this Committee to achieve a consensus that the issue of space debris should be considered by the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space. The aim would be to develop a soundly based technical programme to understand better and minimize the creation of space debris, which would guide all countries with launch capabilities and all countries which place satellites into orbit.

(Mr. Strauss, Canada)

Finally, allow me to report on the main points of the Canadian space programme during the past year. Although there have been financing uncertainties both at home and with our international partners, progress on our major projects has been steady and satisfactory. Our contribution to the space station, the Mobile Servicing System, remains on schedule, as does our RADARSAT remote-sensing satellite. Our mobile-satellite project, MSAT, is moving forward again now that the financial problems of the parent organization have been addressed. The close international cooperation between the Canadian Space Agency (CSA) and other space agencies has continued and been strengthened through high-level visits and through working on joint projects. A new Canadian Long-Term Space Plan is being developed. Once the approval of the Government has been obtained, the CSA will have a much clearer idea of the resources available to it and the programmes it will be able to undertake in the future.

My delegation looks forward to working with other delegations over the next two weeks on the issues before us and making progress on the peaceful uses of outer space which will be of benefit to all members.

Miss LOSTY (United Kingdom): As this is my first intervention in this thirty-sixth session of the Committee, I should like to echo the sentiments of my colleagues and express my appreciation, Sir, on seeing you once again take the Chair. Your skilful chairmanship during last year's session was crucial for reaching consensus on the Principles Relevant to the Use of Nuclear Power Sources in Outer Space. This year I am sure you will bring the same skills to the debates on the other major issues which the Committee faces. My delegation is also grateful to the Chairmen of our two Subcommittees, Mr. Carver and Mr. Mikulka, for their continuing efforts in

(Miss Losty, United Kingdom)

promoting constructive debate and encouraging delegations to work towards practical solutions. We should also like to express our gratitude to the Committee Secretary, Mr. Jasentuliyana, Mr. Abiodun and their colleagues in the Office for Outer Space Affairs for their invaluable support of the main Committee and Subcommittees throughout the year.

The Committee's agreement last year by consensus on the Principles Relevant to the Use of Nuclear Power Sources in Outer Space was a major and very welcome achievement. We now have a set of benchmark principles on which we can build by revisiting and revising them when necessary. In the meantime, the United Kingdom is happy to contribute to the general, ongoing discussion within the Scientific and Technical Subcommittee on the safe use of nuclear power sources in space.

(Miss Losty, United Kingdom)

The agreement of the principles has had two very positive effects. First, it has helped strengthen the spirit of cooperation between Member States. In this way, the Committee's work could be said to reflect the growing collaboration between nations in the peaceful uses of outer space. Secondly, the agreement has allowed the Committee to focus more closely on other important issues.

One such issue is space debris. The United Kingdom has long held the view that this important topic deserves serious, formal consideration by Member States. We therefore add our support to the now widespread calls that it be included on the agenda of the Scientific and Technical Subcommittee. An initial stage would be to look at the extent of the problem and to discuss possible ways of preventing debris in the future. In time, it may be appropriate to involve our Legal Subcommittee in consideration of the issue. However, my delegation believes it would be premature to begin discussions on the legal aspects before the Scientific and Technical Subcommittee has carried out an assessment of the problem and of possible solutions.

Another key issue that unites the Committee in concern is the state of the Earth's environment and particularly how the use of space technology and space science can help combat the process of deterioration. The Secretariat's report on the Committee's role in implementing the recommendations of the United Nations Conference on Environment and Development is a welcome analysis, and it is my delegation's hope that Member States will continue to consider how we can use space to tackle this common threat.

I have talked about the strengthening spirit of cooperation in the Committee, and the particular areas where Member States can work more closely together in order to solve common problems. I would like to touch upon

(Miss Losty, United Kingdom)

another aspect of cooperation which we should not neglect. Effective cooperation means avoiding duplication of effort, pooling our resources and making sure that these resources are channelled in productive directions. For example, the moves towards a more flexible approach to the length of the Legal Subcommittee's session, which my delegation supports, are a demonstration of the Committee's commitment to the effective use of resources.

It is my delegation's hope that the same commitment will be evident in discussions on a possible third UNISPACE conference. I would like to state at the outset that my delegation has not yet been able to formulate a position on this issue. On the one hand, we cannot endorse the proposal at this stage, but on the other hand we have no objections in principle. We would first like to consider the objectives set for the conference, how the participants will benefit and whether the benefits will justify the costs involved. In other words, we must be sure that a conference will be an effective use of resources. We feel that the Committee needs to address those points satisfactorily before discussions continue.

The strength of this Committee is its spirit of cooperation. But the process of cooperation is hard work. It entails considering positions of all parties, suggesting a range of solutions and finally reaching a compromise. Nevertheless, my delegation is confident that this Committee will not shirk the challenge of working more closely together to find solutions acceptable to all.

ORGANIZATION OF WORK

The CHAIRMAN: This afternoon we will conclude the general debate and then begin consideration of agenda item 4, "Ways and means of maintaining outer space for peaceful purposes". I remind those wishing to speak on this

(The Chairman)

item to inscribe their names with the Secretariat as soon as possible, as it is my intention to close the list tomorrow morning.

Time permitting, we will take up items 5 and 7 tomorrow. Those wishing to speak on those items are also invited to inscribe their names with the Secretariat.

The meeting rose at 12.55 p.m.